

## Claims

1. A VPO catalyst of the general formula:



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- a = 0.1-2.5  
 b = 0-3.0, in particular 0.001-3.0  
 c = 0.1-10  
 d = depends on the valency of the other elements  
 10 e = 5-100 (% by weight)  
 f = 95-0 (% by weight), in particular 95-5 with the provision that b

and f are not simultaneously 0

X = Cr, Mo, W, Fe, Ru, Co, Rh, Ir, Ni, Pd, Pt, Zn or Nb

Y = cyclic nitrogen compound,

15 Z = SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub> or TiO<sub>2</sub> or their mixtures,

manufactured in accordance with a method in which one carries out the following steps:

- a) converting V<sub>2</sub>O<sub>5</sub> and concentrated phosphoric acid in an organic medium under reflux conditions,  
 20 b) separating off catalyst precursor that forms and optionally  
 c) drying at 80 to 140°C,  
 d) impregnating the optionally dried catalyst precursor with an aqueous or alcoholic solution of the metal X, with X having the significance quoted above,  
 e) separating off excess solution,  
 25 f) drying and calcining the impregnated material, and  
 g) optionally forming the catalyst obtained.

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2. The VPO catalyst in accordance with claim 1, characterized in that the catalyst contains SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub> or TiO<sub>2</sub> or their mixtures as a support.

3. The VPO catalyst in accordance with claim 1, characterized in that the catalyst contains 0.01 to 5 % by weight of an organic cyclic nitrogen compound.

4. The VPO catalyst in accordance with claim 3, characterized in that the catalyst contains as the nitrogen compound a compound selected from the group pyridine, quinoline, pyridazine, pyrimidine, and pyrazine.

5. The VPO catalyst in accordance with claim 3, characterized in that the catalyst contains 3-methylpyridine as the nitrogen compound.

6. A method of use of the catalyst in accordance with claims 1 to 5 for the manufacture of 3-cyanopyridine by conversion of 3-methylpyridine with ammonia and oxygen at temperatures up to 440°C.